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Monthly Extension Update Newsletter

Forestry, Wildlife, and Fisheries

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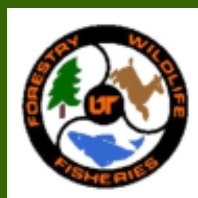
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FORESTRY, WILDLIFE & FISHERIES UPDATE NEWSLETTER

APRIL 2012

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BECOMING AN OUTDOORS-WOMAN WORKSHOP, JUNE 8 - 10

The Tennessee Wildlife Resources Agency (TWRA) will host its 2012 Becoming an Outdoors-Woman (BOW) workshop June 8-10 in Crossville at the Clyde M. York 4-H Center.

The relaxed atmosphere of the BOW workshop is primarily aimed at women, and is an opportunity for anyone 18 or older to learn outdoor skills usually associated with hunting and fishing. However, it is useful for many other outdoor pursuits and interests. Workshop participants will have a chance to take a variety of courses over the three days and the classes are taught by experts in their respective fields.

This year's workshop offers classes in firearms and firearms safety, basic fishing skills, advanced fishing techniques, all-terrain vehicle operation, basic archery, boating safety education, outdoor cooking, beginning fly fishing, nature photography basics, basic canoeing, basic shotgun, backyard habitat, map and compass, introduction to muzzleloading, introduction to turkey hunting, introduction to deer hunting, introduction to waterfowl hunting, reading the woods, discover scuba, stream ecology, and boat trailer basics.

The workshop fee is \$175 and includes lodging at the Clyde M York 4-H Center, meals, T-shirt, and a 2012-13 Tennessee Hunting and Fishing License. Registration is taken on a first-come, first-serve basis. (*An application is attached at the end of the article*).

For more information contact Donald Hosse, Wildlife Education Program Coordinator, at don.hosse@tn.gov or telephone (615) 781-6541.

AGRICULTURE AND FORESTRY “LISTENING SESSIONS”

The Tennessee Department of Agriculture is hosting a series of listening sessions across the state in May for farmers, forest landowners and agribusinesses. The purpose of the meetings is to hear stakeholder concerns about current issues and to explore opportunities for developing our rural economy and increasing farm and forest income.

“We want to be available to our producers, landowners and agribusinesses to hear their concerns and to get their input on how to enhance our rural communities and economy,” Agriculture Commissioner Julius Johnson said. “This is also about ongoing efforts to look at how we, as an agency, can provide better service and be more responsive to challenges and opportunities.

“Agriculture and forestry are growing businesses in Tennessee. We must find the best ways to maintain and expand infrastructure while encouraging long-term profitability.”

Sessions are scheduled with two being devoted specifically to discussing forestry issues as follows:

Agriculture Listening Sessions

May 1 at 7 p.m. CDT – Coffee Co., Farm Bureau Insurance, 225 E. Main St., Manchester

Forestry Listening Sessions

May 3 at 7 p.m. CDT – Lawrence Co., Columbia State Community College Conference Room, 1620 Springer Rd., Lawrenceburg

May 15 at 7 p.m. CDT – Cumberland Co., Cumberland Co. Fairgrounds Multi-Purpose Room, 1398 Livingston Rd., Crossville

The agenda for the sessions include remarks by Commissioner Johnson and an overview of the Tennessee Agricultural Enhancement Program (TAEP) and the recently formed Agriculture and Forestry Economic Development Task Force. There will also be time for open discussion by participants.

For more information about the Tennessee Department of Agriculture, visit www.tn.gov/agriculture.

TAEP provides cost share funds for long term investments in livestock and farming operations. Participation allows producers to maximize farm profits, adapt to changing market situations, improve operation safety, increase farm efficiency and make a positive economic impact in their communities. TAEP is a direct result of Tennessee’s commitment to supporting farm development and Tennessee’s agricultural community. For more information, go to the following websites:

<http://www.tn.gov/agriculture/enhancement/index.shtml>

<http://news.tn.gov/node/7852>

“TO PRINT OR NOT TO PRINT?”

Adam Taylor, Associate Professor, Forest Products

You may have seen taglines at the end of emails that discourage printing. These messages generally have a picture of a tree, with the implication that reducing paper usage is good for the environment because it reduces demand for harvesting trees. You may also be starting to see contrary advice, which points out the various merits of paper and the forests and forestry associated with its production. So, which is better advice?

If the goal is to minimize environmental impact, then certainly not printing an email message is better than printing one. Reducing consumption is the best of the ‘reduce, reuse and recycle’ options. However, the implication that not printing is good because it ‘saves trees’ is misguided: Trees are a renewable product from forests that are (in most of the world) not being deforested. A better reason for reducing unnecessary printing is to reduce the consumption of non-renewable resources (primarily related to energy production) that are required in addition to the wood fiber.

It turns out that the energy use associated with paper production and use is relatively small. A study of (paper) mail,¹ which included all the energy inputs involved with manufacturing paper, printing and transporting the mail, found that the energy we use to power a refrigerator for a year is equivalent to receiving over 5000 letters in the mail.

However, the print-or-not choice raises many other considerations, such as the permanence and security of paper copies compared with electronic storage and the personal preference for reading on screen or reading a paper copy. These considerations will likely be more important for most people than the energy saved by not printing.



Please consider
your responsibility to the
environment before
printing this e-mail.

Notice: It's OK to print
this email. Paper is a
biodegradable,
renewable, sustainable
product made from trees.
Growing and harvesting
trees provides jobs for
millions of Americans.
Working forests are good
for the environment and
provide clean air and
water, wildlife habitat and
carbon storage. Thanks
to improved forest
management, we have
more trees in America
today than we had 100
years ago.

¹ <http://www.slideshare.net/pitneybowes/environmental-impact-ofmail>

WEED CONTROL WHEN PLANTING HARDWOODS

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Control of Unwanted Grasses

Grasses can be controlled from the planting site both before and after planting hardwoods. Grass herbicides have a mode of action that is specific within the grass plant family and will not cause injury to newly established hardwood seedlings; conversely these herbicides will not control broadleaf weeds. Grass-specific herbicides may be broadcast over planted hardwood seedlings (broadleaves) without affecting their growth.

Control of Unwanted Annual and Perennial Broadleaf Plants

Herbicides selection for control of broadleaf weeds is more complex. Most broadleaf herbicides have strengths for control of some plants and weaknesses for control of others.

The most used and cost-effective herbicide for grass and broadleaf control in hardwood plantings is glyphosate. Glyphosate disrupts amino acid synthesis in the plant. There is little selectivity associated with glyphosate. It will affect the hardwood seedling if sprayed on the leaves or the green stem of the plant. Thus, glyphosate must be used as a directed spray on the target weed species. Be careful not to allow splash or mist from the herbicide application to get on the hardwood seedlings.

Another herbicide used in the establishment of hardwood plantations is sulfometuron (*Oust*). The strength of this herbicide is both the pre- and post-emergence control of grass and broadleaf weeds. Sulfometuron is applied in strips in the fall before spring planting and has some residual activity for two months after planting. Normally, rates of 0.75 to 1.0 ounces per acre are sufficient to prevent harm to planted seedlings.

Selection of the best herbicide or combination of herbicides that will provide broad-spectrum control of all unwanted broadleaf weeds requires some research. Most land grant universities have manuals and publications (many are online) for chemical control of weed species. County Extension representatives or forestry professionals are also a good source for choosing the best and most cost-effective treatment.

Residual Control of Grass and Broadleaf Weeds Around Planted Trees

Once trees are planted, there are not many options available that will control broadleaf weed competition and avoid herbicides injury to the seedling. Although many herbicides will control a suite of plants, no one herbicide will control all plants without affecting the growth of the hardwood seedlings. The best and most cost-effective option is a directed spray of glyphosate onto unwanted vegetation, while avoiding application to the leaves or stem of the seedling via a shield. Glyphosate will control most broadleaf and grass species. However, the precautions needed to ensure that the directed spray, splash, and/or mist do not contact the seedling will add to the application cost. Two or more treatments per year may be necessary for two or three years for effective control of weeds. Once tree crowns get above the residual weed complex such that they are receiving full sunlight, weed control is no longer necessary. Eventually, the tree crowns will shade out the ground vegetation.

How to Avoid Herbicide Injury and Weed Competition of Planted Seedlings

Annual and perennial weeds should be controlled before planting. Weed problems are easier to manage without the trees than with them. Adequate planning and site preparation before planting are essential for success. Herbicides should be used to control unwanted vegetation that is present after planting. If only grasses are present, spray grass herbicides over the top of seedlings. These grass-specific herbicides do not affect tree seedlings. If broadleaf weed competition is present, use directed spray of a broadleaf herbicide making sure that the spray or even the mist does not get on the seedling. Retreatment of broadleaf herbicides will be necessary until the seedling grows above the weed complex. Mechanical cultivation (disking and hoeing) can be used but should be repeated several times during the growing season. Mechanical cultivation usually results in damage to the seedlings. Mowing is not feasible because it favors grass, the worst moisture competitor of tree seedlings.

BURNING IN HARDWOOD FORESTS: IMPACTS ON TREES

Wayne Clatterbuck, Professor, Silviculture and Forest Management

I have become reacquainted with the large amount of information about hardwood forest management that is contained in the *Central Hardwood Notes*, published in 1989 by the USDA Forest Service, North Central Research Station and online at <http://www.ncrs.fs.fed.us/pubs/ch/CHNotestoc.html>. For those natural resource professionals who work in hardwood forest management, this compendium of articles should be bookmarked online or copied as part of your reference materials.

One article that I would like to highlight is number 8.03 by Loomis and Paananen entitled “*Appraising Fire Effects*” which assesses how burning impacts hardwood trees. One of my pet peeves in the use of fire in hardwoods (I am an advocate of fire as a forest management tool), is that frequently the objective of using fire is undefined, too generic or inappropriate for the site. Often reasons are given such as to reduce fuels or to promote oak regeneration. Generally, we do not have an excessive fuels problem in eastern hardwood forests because decay is rapid and moisture is ample, unless some event occurs such as a tornado or a blowdown where an excess of woody debris is on the forest floor. Likewise, I have yet to reference a silvicultural prescription where fire exclusively promotes regeneration of oaks as compared to other competing species. Most hardwoods sprout and just as many oaks can be killed by burning as those that survive. However, past history has indicated that burning may have been in-part beneficial to regenerating oaks on some sites, but research has not been able to replicate those conditions with any degree of certainty.

Nevertheless, burning in hardwoods also can provide benefits. Fire can enhance wildlife habitat and diversity by stimulating the seed bank for herbaceous growth of grasses and forbs. Fire can also expose the mineral soil required for germination of both woody and non-woody plants. Burning is a mechanism to modify the vertical and horizontal structure of the vegetation that is advantageous to some wildlife species. Burning is also used to maintain savanna and woodland conditions, i.e., not allow succession to proceed.

Fire effects on hardwoods vary greatly: some trees will be killed immediately, others will be injured and will die in a few years, others will incur basal wounds that can provide entry for decay, and some trees will be unaffected. A few of the factors that impact the results of burning in hardwoods include fire intensity, species, tree size and season of the fire. A larger tree usually has thicker, more insulating bark and larger circumference. If some of the cambium in larger trees is killed by a fire, the tree can continue to function. Smaller diameter trees without these attributes are more susceptible to injury or death from burning. Even though most intensive fires that cause tree damage occur in the spring before leaf out, given equal fire intensity, mortality and damage are greatest for fires occurring during the growing season.

The article by Loomis and Paananen presents a summary table illustrating for four oak species (black, scarlet, white and post oaks) the percent of trees that are likely to die from fire. These percentages are categorized by tree diameter, fire scorch height (2, 4, and 6 feet high), and season of burning (dormant and growing). The data indicates that:

- Hardwood trees 3 inches in diameter and smaller are likely to die if scorch height is greater than 2 feet
- As burning scorch height increases, tree survival decreases
- Tree survival increases and burning has less impact on trees with larger diameters (thicker bark) than at smaller diameters
- Tree survival is greater if burns are conducted during the dormant season as compared to the growing season
- Species in the red oak family (black and scarlet) do not tolerate burning as well as those in the white oak family (white and post)

The article also presents information about volume and value loss associated with burning. Generally, harvesting a sawtimber tree with a year or two of burning will not impact the wood because the burned area is slabbed off during the milling process. A tree having a fire wound covering $\frac{1}{2}$ to $\frac{2}{3}$ of the circumference at 1-foot above ground is unlikely to survive. For more information about volume losses associated with tree diameter, wound height and wound size for 10, 20 and 30 years post fire, refer to the article.

Burning can cause injuries to hardwood trees. Just be careful and use fire to satisfy your specific management goals, and protect against deleterious effects on hardwood trees and timber.

THINKING ABOUT VEGETATION MANAGEMENT

Larry Tankersley, *Extension Associate, Forestry*

The growing season is here. Exciting uh?? I know I'm looking forward to longer, warmer days, "bud break" and the explosion of wonderful green landscape. As a human being, my instincts to manage the surrounding vegetation are also as natural as the changing seasons.

In ecology, **niche** (pronounced *nitch*) is a term used to describe the role of an animal or plant in its relationship with other organisms. From *Wikipedia*, in 1927 Charles Sutherland Elton, a British ecologist, gave the first working definition of the niche concept. He is credited with saying: "[W]hen an ecologist says 'there goes a badger,' he should include in his thoughts some definite idea of the animal's place in the community to which it belongs, just as if he had said, 'there goes the vicar.'"

A niche that humans have played for thousands of years has been to manage vegetation. I have long said that as a forest and wildlife manager, my job is largely to determine which plants we will favor i.e. the ones we'll keep and the ones that we will remove. Sounds easy and often is.

If I'm growing a garden, the plants that I don't want are quickly identified as "weeds". I will never forget taking plant identification classes at college and learning that many of the "weeds" I was familiar with as a child were considered "wildflowers". At that time I was a young ecology student; when in high school we were future farmers learning weed control.

Ultimately, I feel like I've been able to separate the ideas. If I am unconcerned with providing growing space, light, water, and essential elements to a selected group of plants, all the plants can be considered wildflowers and I can enjoy their colorful flowers and the general lack of apparent order. Many folks have problems with this lack of order and say the weedy patch of wildflowers and bushes look **snaky!**

I understand "prospect", the desire to create an extended view. Our ancestors certainly desired this environment when wilder creatures were around that might consider us food, but in Tennessee I can't think of too many.

To a community of wild creatures like many songbirds, rabbits and yes maybe a few snakes, this tangled brushy "mess" is precisely what they would consider good "habitat". Habitat is the environment where a particular organism eats, sleeps, loafs and generally tries to survive and reproduce. Blackberry bushes and tall annual broad leafed weeds known as **forbs** may be just where a white-tailed deer may want to hunker down, soak up some sun and chew her "cud". Smaller animals may be able to escape excessively hot ground temperatures in the shade of low growing shrubs which may provide "soft mast" for food later in the summer.

The point really is plant identification. To quote my buddy Craig Harper, our UT Extension Wildlife Specialist, "in forest and wildlife management, this is **paramount**". It is of primary concern that before I set about cleaning up a newly acquired piece of property, I should consider the habitat value of the tangled brushy mess. It is also interesting, at least to me, to allow and encourage natural regeneration of a new forest. It is not uncommon to walk through an abandoned parcel of land and identify any number of little trees volunteering to be the next forest. Admittedly often the species mix is not always the species that I might want, but often one can identify seedlings of species in the adjacent woods that with minimal effort can be encouraged into the canopy of the next forest by weeding around it rendering it "free-to-grow".

Enjoy the growing season with plant identification books that are widely available.

PROFILE OF LANDOWNERS WHO WILL CONSIDER CERTIFYING THEIR FOREST

David Mercker, Extension Specialist, Forestry

The following are results of a survey of private forest landowners that was conducted in 2004 in West Tennessee (Mercker 2006). Some of the objectives of the study were to determine landowner's awareness and acceptance of forest certification and to profile who among them would consider this practice.

The results reveal that the average landowner was 61 years old, had purchased their forest land, and had harvested timber in the past. The average ownership size and tenure was 217 acres and 21 years, respectively. Most landowners were either retired or were professionals. Nearly one-half of the landowners claim they had received information about their forest land, and one-fourth had participated in government cost-share assistance programs. Fifty-five percent felt that it was important or very important to stay up-to-date with new forestry practices and programs, yet 78 percent were not aware that a County Forestry Association existed in their county.

Very few landowners were familiar with forest certification. Even so, when presented with a definition of forest certification, 81 percent indicated a willingness to consider it. Landowners most likely to consider certifying were typically well educated, professionals that were new at forest land ownership. They had received advice or information about their forest land and desired to stay up-to-date with new forestry practices and programs. They claimed both utilitarian and environmental reasons, including a healthier forest, improved wildlife habitat, and saving money by reducing likelihood of future regulation, as the most important reasons to certify their forest land. Those willing to consider certification agreed that certification would achieve an array of benefits, including: improved forest management, increased tree farming profits, satisfying consumers, less regulation, recognition for good forestry practices, and the ability to compete in the international market. Landowners indicated that the most trustworthy objective third party to conduct forest certification was the Division of Forestry, followed by consulting foresters, then landowners associations. The size of forest ownership was not significantly related to landowner's willingness to consider forest certification.

Some of the findings of this research support those of previous studies (Lindström 1999; Vlosky 2000; Newsom 2003). In all cases (but differing orders) landowners in the comparative studies indicated that they most trust the state government, professional foresters (either certified or consulting), and landowner associations to certify their forest, with the least trust in nongovernmental organizations. The results also support previous findings that Alabama NIPF landowners (Newsom 2003) are more likely to certify their forest for both monetary and non-monetary reasons, that few landowners were familiar with certification, those who get advice from (or interact with) professional foresters are more receptive to certification, and that age is not significantly related to willingness to certify. The findings are similar to those for European landowners (Lindström 1999), in that those most willing to consider certification were better educated.

These findings may be useful to professional foresters and other natural resource professionals as forest certification continues to gain in popularity. As always, landowners should seek professional assistance when making decisions regarding the management of their forest resources.

HARDWOOD ANALYSIS AND TRENDS (HAT) – APRIL 2012

David Mercker, Extension Specialist, Forestry

Hardwood lumber prices in 2012 are advancing as predicted . . . unexciting. With the last **HAT** (Jan 2012), it was explained that uncertainties in the economy will continue to weigh on the hardwood lumber industry, including: housing starts (at historically low levels), Europe's financial crisis, tight business credit, energy costs and our own US difficulties (unemployment, debt, regulation, and election anxiety). It is what it is, moderately positive, and mostly lifeless.

The variables that affect hardwood industry profitability and ultimately lumber pricing are numerous, but they fall into three categories: supply, demand and operating costs. There is no shortage of supply of hardwood timber - at least in our region. US Forest Service inventory data continue to indicate that hardwood growth exceeds removal. We have an abundance of timber, but locating landowners willing to sell their timber – that's a different story. Sawmills will tell you that supply is *always* a concern. However, concern is dampened when markets are more robust, because more landowners are willing to sell.

Instead, at least at present, the difficulty with profitability in the hardwood industry lies in product demand and operating costs. Demand has weakened, both domestically and now internationally. As the *Hardwood Market Report* (3/16/12) puts it, "In the US and abroad, there is a sense that demand will not likely improve significantly for some time." This is supported with comments from the president of the National Hardwood Lumber Association, Dave Redmond (*Hardwood Matters*, April 2012), "North American has the finest temperate hardwood resource in the world, we just need more markets." Regarding operating expenses, high fuel/regulatory/health costs continue pressuring industry profitability. Remember that just since 2005, 1,009 sawmills have closed nationally in the US (US Forest Service 2011).

Recent news has been somewhat encouraging. Activity for ash, poplar, maple and most white woods has improved slightly. This is not because of buyer interest but rather due to reduced supplies. Loggers and mills have not focused on these species and the supply chain has become lean. Still this is good news for **HAT** and for Tennesseans, particularly since poplar occupies many forest stands and thus is a big component of timber sale activity. Such abundance is also true of red and white oaks, a mainstay of our industry. Unfortunately the last significant price movement for these species occurred last fall, and it was in the wrong direction. In short, hardwood lumber activity is mixed. **HAT** will continue to follow the market and report again in late summer.

Summarized with permission of the Hardwood Market Report, Memphis, Tn.

WILDLIFE MANAGEMENT CALENDAR FOR MAY

Craig Harper, Professor, Wildlife Management

Wildlife Notes

Most groundhogs, beavers, raccoons, and chipmunks are born in May

Wood duck broods begin to appear

Peak of dove nesting season

Wild turkey hens are incubating eggs; turkey poults begin to appear

Grassland birds are nesting. DO NOT mow old-fields now!

Neotropical migrant songbirds have arrived and are nesting

Fowler's toads, northern cricket frogs, and gray treefrogs begin calling

Habitat Management

Plant native warm-season grasses and associated forbs

- non-native cool-season grasses (such as tall fescue, orchardgrass, and brome-grasses) should have been killed last fall before planting
- spraying cool-season grasses in spring before planting nwsg is not recommended; spring spraying will result in 30 – 40% coverage of csg returning within 2 years
- always consider managing the naturally occurring seedbank for early succession before planting nwsg for wildlife
- use appropriate preemergence herbicides when planting native grasses
- plant before early June
- plant bluestem, indiangrass, switchgrass, and sideoats grama seed **no deeper** than ¼ inch; eastern gamagrass approximately 1 inch
- be patient!
- refer to Chapter 5 in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, for additional information

Plant firebreaks and other disked strips not left intended for naturally occurring early succession

- iron-clay cowpeas, re-seeding soybeans, grain sorghum, Egyptian wheat, and various millets provide forage and seed for a variety of wildlife species
- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for seeding rates and additional information

Plant warm-season food plots

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for planting recommendations

Mow and spray perennial forage food plots for weed control if necessary

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for specific herbicide and management recommendations

Collect soil test samples from plots to be planted this fall and lime now as needed

- applications of lime require about 6 months before full effect on pH is realized

Establish salt/mineral licks for white-tailed deer

- realize mineral licks have **not** been found to increase antler size, body weights, or reproduction; however, trace mineral salt licks may increase visitation to sites that will be used later for infrared-triggered camera surveys

Wildlife Damage/Population Management

Leave young wildlife alone

- let nature take its course; you'll do more harm than good by trying to "save" orphans

Do not allow pet cats outside; report all feral cats to the animal shelter for immediate removal

- putting a bell around a cat's neck does not keep it from killing birds and young rabbits and squirrels
- house cats are not natural predators as they are not native to North America

Put up chicken-wire fence at least 6 inches belowground and 2 feet aboveground around vegetable gardens to repel rabbits

Put up a 2- or 3-strand electric fence (one strand 6 inches aboveground and the other 6 inches higher) to keep groundhogs and raccoons out of vegetable gardens

To repel deer from vegetable gardens, erect a single-strand electric fence (2 ½ feet aboveground) with aluminum tabs attached every 3 – 5 feet. Smear peanut butter on the aluminum tabs. Deer are attracted to the peanut butter; however, when they touch the aluminum tabs with their mouths, they learn to stay away.

Plant "alternative" forages for wildlife on the outside of fencing around a garden to satiate the appetite of deer, groundhogs, and rabbits, further helping to keep them out of the garden.

Snakes are beginning to appear with warmer days

- clean-up around the house (mow, remove piles of wood, brush, and trash) to repel rodents that attract snakes
- there is no reliable "repellent" for snakes; only "snake oil"

Snapping turtles and others are also more visible as they move about selecting sites to lay eggs

Most skunks are born in May; females will be choosing sites to give birth; close all entrances to crawl spaces and other areas where skunks are not wanted.

The best way to get rid of moles is by trapping, but you have to set the traps **correctly!**

Black vultures may be problematic as calves are born

- scare tactics using firearms and pyrotechnics are effective—persistence is necessary
- it is against the law to shoot a vulture without a permit
- contact USDA-Wildlife Services for severe problems and information on obtaining a permit

Refer to *Managing Nuisance Animals and Associated Damage Around the Home*, PB 1624, for additional information on wildlife damage management

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